



**California Department of
Pesticide Regulation**

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WHAT YOU NEED TO KNOW

about

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION

Extra Controls for MITC

The Department of Pesticide Regulation (DPR) is proposing added controls for methyl isothiocyanate (MITC). (Details on the proposed measures are on the next page.) The controls are designed to reduce risks from acute (that is, short-term) exposures that might occur near applications with pesticides that emit methyl isothiocyanate (MITC).

MITC is a breakdown product of metam-sodium and metam-potassium, two pesticides used to fumigate soil before planting of crops. (MITC is also a breakdown product of the soil fumigant dazomet. Control measures for dazomet will be addressed later.)

DPR studied MITC-containing pesticides in a risk assessment completed in 2004. Risk assessment is designed to answer questions about how toxic a chemical is, exposure from its various uses, the possibility that use will cause harm, and how to characterize that risk. The MITC risk assessment identified potential risks to workers and others near applications of pesticides that emit MITC. Since then, DPR has been developing extra control measures to protect against those hazards.

WHY IS DPR PROPOSING EXTRA CONTROLS ON MITC?

- MITC can pose a significant health hazard and its use has caused illness incidents over the years. Whether suffered by individuals, groups of workers, or neighborhoods, pesticide-related illnesses are unacceptable and people need to be protected. DPR will do this by strengthening the current set of restrictions.
- DPR's goal to ensure the use of metam-sodium and other MITC-generating pesticides does not cause eye or respiratory irritation.
- The use practices DPR proposes to put in place are designed to protect against eye or respiratory irritation. Protecting against these minor, reversible effects of MITC exposure will protect people from suffering more severe health effects.

HOW ARE MITC-GENERATING PESTICIDES USED?

Metam-sodium and metam-potassium are pesticides used to control weeds and other pests in carrots, peppers, potatoes, tomatoes, and other vegetable crops. They are applied through sprinkler, drip, or flood irrigation systems, injected into the soil, or sprayed on

Proposed Control Measures for Metam-Sodium, Metam Potassium and Methyl Isothiocyanate (MITC)

DPR IS PROPOSING THESE CONTROLS TO REDUCE OFF-SITE EXPOSURES. EQUALLY EFFECTIVE ALTERNATIVE APPROACHES WILL BE CONSIDERED.

1. More restricted material permit information

Growers would be required to submit more information when applying for a restricted material permit. The information would include: method of application; total acreage to be treated; identification of each application block to be treated; proposed application rate; the number of post-application water treatments scheduled; and how bordering property operators will be notified of the application. The commissioners would use this information to consider whether to put extra controls on the restricted materials permit.

2. Worker activity restrictions

Buffer zones (areas where people may not enter) are now required around fumigations. If a buffer zone extends into adjoining agricultural property, growers would be required to work with the adjoining property operator to post warning signs in the buffer zone while it is in effect. Signs would be posted no more than 200 feet apart. The signs must be visible from 25 feet away to people with normal vision. Signs must contain the words: "Metam-Sodium (or Metam-Potassium) Buffer Zone," "Keep Out" and "No Entry."

3. Notification to adjoining property operators

If there were sensitive sites within 300 feet of the edge of the buffer zone, they would have to be notified by the grower that a metam-sodium application is scheduled. Sensitive sites include schools, homes, hospitals, convalescent homes, on-site employee housing, or other sites identified by the county agricultural commissioner. Notification would be in writing, in both English and Spanish, or by other means approved by the commissioner. Growers would be required to deliver the notice before the application.

4. Acreage treatment restrictions

When the area to be treated is a quarter mile or less from a sensitive site, growers would be required to limit the number of acres treated in each application to 25 acres for sprinkler applications and 40 acres for shank applications.

If the field were more than a quarter mile from a sensitive site, growers would be required to limit the number of acres treated in each application to 50 acres for sprinkler applications and 80 acres for shank applications.

5. Post-application watering

To strengthen the current watering rules, growers would be required to water after all applications to control off-site movement of MITC from treated soil. Two different watering methods are under consideration, based on monitoring data. How far the treated field is from sensitive areas will determine what watering method a grower must use:

- **Sensitive areas (which are fields which are a quarter mile or less from a sensitive site):** Proposal is for three water applications for several hours each over the two days after the metam-sodium or metam-potassium application is completed.
- **Standard areas (where any sensitive site is more than one-quarter mile away):** Proposal is for one to two water applications for several hours each after the metam-sodium or metam-potassium application is completed.

6. Distance from sensitive sites

Buffer zones were developed based on computer modeling, current controls developed by commissioners, and what DPR learned from applications when illnesses occurred. Proposed buffer zones vary depending on the application method and watering method. For sprinkler and shank applications using one to three water applications, buffer zones would range from 200 feet to one-half mile, depending on application rate and acreage treated. Applications requiring buffer zones of more than a half-mile would be prohibited. DPR is considering buffer zone durations of 24 hours to 48 hours, depending on the number of post-water applications.

7. Weather

Restricting when applications could occur near sensitive sites would impact how much a fumigant will move off the field. Generally, air is calm at night, which increases the potential for peak concentrations to move off-site. DPR is proposing that applications be prohibited from early evening to early morning (that is, one hour before sunset to one hour after sunrise).

8. Multiple-block restrictions

DPR is considering a 48- to 72-hour restriction between applications that are close to each other. We are requesting input from stakeholders on other, similar measures.

the soil surface and mixed in with a rotary tiller. When they contact warm, moist soil, they break down quickly to MITC and other volatile gases.

WHAT PROBLEMS HAVE OCCURRED WITH MITC?

MITC can pose a significant health hazard and has resulted in several illness incidents. As acute exposure increases, health effects from MITC exposure can quickly change from eye and respiratory irritation, nausea, headache, dizziness, and shortness of breath, to significant, and possibly persistent acute health effects, including bronchitis and asthma. The risk assessment describes exposures at which MITC can be expected to cause mild reversible eye and respiratory irritation, and lower exposure levels at which no health effects are expected.

Applicators and regulators have extensive experience with thousands of applications where no irritation was reported, as well as a limited number of incidents where applications resulted in minor and major adverse impacts. The situations provide real-life information to guide our control measures.

MITC-generating pesticides are restricted materials, and require a permit from the county agricultural commissioner (CAC) before they can be used. The permitting process allows commissioners to review the proposed site of application and, where necessary, require specific use practices (called "permit conditions") to protect nearby sensitive areas, such as schools. Based on the problems that led to illness incidents, CACs have continued to make changes in permit conditions, to prevent future incidents. Although the number of reported illness incidents have dropped, more controls are necessary based on the scientific data evaluated by DPR scientists.

WHAT APPLICATION METHODS ARE INCLUDED IN THE PROPOSAL?

This proposal will address sprinkler and soil injection (that is, shank) application methods, which make up a majority of the uses. DPR will address flood, drip and rotary tiller applications in the agricultural setting

after it completes a review of additional scientific monitoring data.

This proposal will not address minor, non-agricultural applications such as sewer pipe and utility pole treatments since these applications are made in controlled settings, and the off-site exposure to the public is expected to be minor.

WHAT ARE THE CONTROLS NOW FOR METAM-SODIUM AND METAM-POTASSIUM?

DPR listed metam-sodium and other MITC-generating pesticides as restricted materials in 1994, after our preliminary evaluation of the potential health risk from agricultural use.

Several years ago, the DPR developed suggested permit conditions to address the off-site movement of MITC after metam-sodium applications. The suggested permit conditions were developed based on problems seen in applications that cause illness incidents, most in the San Joaquin Valley. DPR's suggested permit conditions can be found on our Web site, www.cdpr.ca.gov, click on the "A-Z Index" in the left column, then on "Fumigants," to "Regulatory Issues," and under "Metam-Sodium" subhead, "Enforcement Letters."

WHAT IS THE STATUS OF U.S. EPA'S PROPOSED CONTROL MEASURES FOR SEVERAL FUMIGANTS?

U.S. EPA completed its draft risk assessment for metam-sodium and dazomet uses in July 2005. U.S. EPA revised its risk assessments for soil fumigants (including metam-sodium and dazomet) and is seeking further stakeholder input on the revised risk assessments, alternatives/benefits and control measure options in early May 2007. DPR plans to work with U.S. EPA on the development of its control measures.

After U.S. EPA finalizes its control measures for the soil fumigants, DPR will address dazomet in a separate proposal. DPR will evaluate U.S. EPA's control measures and take them into consideration when we develop our proposal.

MITC can pose a significant health hazard and pesticide illnesses are unacceptable.

DPR's goal is to ensure metam-sodium and other MITC-generating pesticides do not cause eye or respiratory irritation.



Single copies of this handout are available from DPR by calling 916-445-3974 and can be downloaded from DPR's Web site, www.cdpr.ca.gov

WHAT'S INVOLVED IN GETTING THE CONTROL MEASURES IN PLACE?

DPR plans statewide regulations for MITC-generating pesticides next year. But to get control measures in place as quickly as possible, they will be issued first as permit conditions.

MITC-generating pesticides are "restricted" materials. Before someone can buy or use a restricted material, they must get a permit from the County Agricultural Commissioner. The permits are specific to each application site. Requiring a permit allows Commissioners to make sure restricted pesticides users take steps to prevent harmful effects or use alternatives to the pesticide. The Commissioner may "condition" issuance of a permit, making it valid only with certain extra precautions designed to ensure the safe use of the pesticide. These controls are in addition to those already on the pesticide label and in regulation. Commissioners tailor these extra controls – called "permit conditions" – based on their local knowledge of the application site.

For certain pesticides, DPR develops suggested permit conditions. These controls, based on our scientific evaluation, are designed to prevent health and environmental impacts. We recommend that County Agricultural Commissioners require users to follow these practices when applying restricted materials.

DPR plans to send suggested permit conditions for MITC-generating pesticides to CACs to use when they issue permits for applications later this year and early in 2008. Before we do that, we are asking for public comment on these proposed control measures.

DPR is interested in input on the effectiveness of the measures it is proposing to prevent incidents from occurring, and the impact these measures may have on applicators and growers. We are also interested in suggestions for alternative approaches that are equally effective in reducing MITC exposures.

WHERE CAN I READ AND COMMENT ON THE PROPOSED CONTROL MEASURES?

You can view or download the proposed control measures from DPR's Web site, www.cdpr.ca.gov, clicking on the "Air" Quick Finder, then clicking on the "Fumigant Resource Center," and then clicking on "Regulatory Issues." The documents related to this proposal will be under the heading "Metam Sodium and Methyl Isothiocyanate (MITC)." If you want a copy mailed to you, call 916-445-4222 or write the Worker Health and Safety Branch, Department of Pesticide Regulation, 1001 I Street, P.O. Box 4015, Sacramento, CA 95812.

Anyone may send written comments on all or part of the proposed control measures. Comments should be submitted by June 30, 2007, by fax to 916-445-4280, by e-mail to loconnell@cdpr.ca.gov, or by postal mail to: Linda O'Connell, Department of Pesticide Regulation, 1001 I Street, P.O. Box 4015, Sacramento, CA 95812.

To widen opportunities for public comment, DPR will also hold a workshop and several technical meetings this spring and summer. (The technical meetings will focus on specific commodities and application restrictions.) More information on the workshop and technical meetings can be found on DPR's Web site, www.cdpr.ca.gov, click on the "Air" Quick Finder, then on "Fumigant Resource Center," and then "Regulatory Issues."

After the comment period closes, DPR may revise the control measures in response to comments. The Department's goal is protect public health; however we recognize that alternative methods of carrying out this goal may be suggested by commenters and may be equally effective. DPR will finalize the control measures with this in mind.

FOR MORE INFORMATION

Contact Linda O'Connell, 916-445-4222, loconnell@cdpr.ca.gov.